

“Upgradation to 2 lane with paved shoulder/ 4 lane of Khajuwala - Poogal Section (Design chainage 0+000 to 30+812) and Poogal - Dantour - Jaggasar - Gokul - Goddu- Ranjitpura - Charanwala - Naukh - Bap section of NH-911 (Design chainage 1+430 to 182+725) (Total Length 212.107 Km) under Bharatmala Pariyojna in the state of Rajasthan on Hybrid Annuity Mode”.

*Proposal for Diversion  
of Forest Land*

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**Full Title of Project:** Diversion of 11.8259 hectare Forest Land for Upgradation to 2 lane with paved shoulder/ 4 lane of Khajuwala - Poogal Section (Design chainage 0+000 to 30+812) and Poogal - Dantour - Jaggasar - Gokul - Goddu- Ranjitpura - Charanwala - Naukh - Bap section of NH-911 (Design chainage 1+430 to 182+725) (Total Length 212.107 Km) under Bharatmala Pariyojna in the state of Rajasthan on Hybrid Annuity Mode.

**Proposal No.** : FP/RJ/ROAD/41036/2019

**Date of Proposal** : 08.07.2019

## PROJECT REPORT

  
परियोजना निदेशक/Project Director  
भारतमाला प.का.ई. बीकानेर/NHAI, PIU, Bikaner

### 1. GENERAL

- 1.1 The Government of India has decided to construct a National Highway standard road network of about 5000 Km along India's vast west to East land border to improve connectivity to the border areas especially for Indian Army/BSF in war and other emergency situations. This ambitious program of Govt. of India is named as —Bharat Mala Pariyojana.
- 1.2 The National Highways Authority of India (NHAI) has been entrusted with the assignment of Project Management Consultancy including preparation of Feasibility Study/ Detailed Project Report of selected stretches / corridors of various roads in the states of Punjab, Rajasthan, Gujarat, Tamil Nadu, Odisha, West Bengal, Bihar, Uttar Pradesh for two/ four laning with paved shoulder NH configuration.
- 1.3 Keeping the above requirements in mind, NHAI had invited proposal from Technical consultants for carrying out feasibility study/detailed project report and render consultancy services for proper structuring and implementation of various packages. In the state of Rajasthan, one such corridor which is finally approved — Up gradation to 2 lane with

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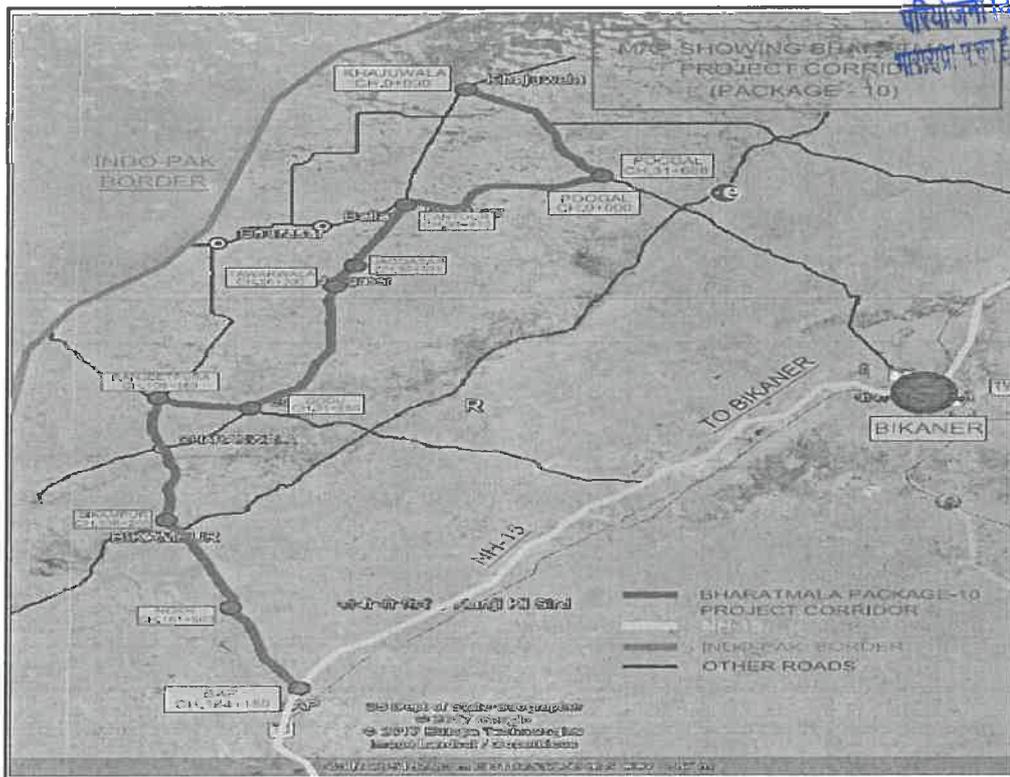
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1.4 The work of preparation of DPR for road from Poogal – Barsalpur – Ranjitpura - Charanwala – Naukh – Bap and Poogal – Alladin ka Bera – Berivanwala in the State of Rajasthan (Package No. NHAI/BM/10) was entrusted to M/s. Technogem Consultants Pvt. Ltd in joint venture with Multi Media Consultants Pvt. Ltd. vide their letter/Work Order NHAI/BM/Proc./01/DPR//2015/76294 dated December 31st, 2015.

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**Project Corridor**



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## 2. DESIGN STANDARDS

2.1 The existing alignment varies from single/ intermediate lane to two lane road. The proposed corridor is two lanes with paved shoulders as per two laning manual of specifications and standards. The condition of existing road is poor. The Poogal to Bap stretch is 184 km while Poogal to Khajuwala stretch is 31.7 km.

The project corridor passes through three districts as follows.

- Bikaner (Majority of the length of about 85%)
- Jaisalmer
- Jodhpur

Project corridor passes mainly through plain terrain. The existing alignment has many substandard curves. The alignment is being improved to meet the minimum design speed criteria of the respective terrain class. The existing horizontal alignment is being followed to the extent possible to avoid undue land and property acquisition. Minimum ruling design speed of 100 kmph is followed all through the alignment.

### Improvement Proposal

Sr. No.	Design Elements	Proposed features
1	Design Speed	100 kmph
2	Right of way	Varies from 25 m to 45 m
3	Length of two lane highway with paved shoulder	210.147 km
4	Length of four lane highway	1.960 km
5	Carriageway width (m)	7.0 m
6	Paved shoulder (m)	1.5 m
7	Earthen shoulder (m)	2.0m
8	Lane width (m)	3.5m

  
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9	Longitudinal Gradient (%)	
	Rolling	2.50%
	Minimum	3.30%
10	Cambers	2.5 % for carriageway and 3% for shoulders
11	Standard Curves	Absolute minimum radius of 250m for existing road. Desirable minimum radius of 400m for new road.
12	Bus Bays	30 Locations
13	Bus Shelter	36 Locations
14	Truck Lay byes	01 Locations

### 3. Bridges and Culverts

There are 186 existing culverts and 6 nos. of minor bridges along this project corridor.

Types of structure	Proposed alignment in main carriageway				Total no. of structure
	Widening	Reconstruction	New construction	Retained	
Minor bridge	-	6	-	-	6
Slab culvert	-	87	-	-	87
Pipe culvert	-	98	-	-	98

### 4. Road Alignment

The development of the road under construction starts at Beriwanwala (Khajuwala) to Poogal (Length – 30+812 Km.) and Poogal to Bap vai Dantour – Jaggasar – Godu – Ranjitpura – Naukh (Length –181+295 km).



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#### 5. Existing ROW / Land width

The objective of the proposed project is to strengthen and widen the existing road to standard 2 lanes with paved shoulder configuration. Proposed road development requires various studies such as traffic, terrain, ribbon development, need for curve improvements, re alignments and widening of minor bridges and C/D structures etc. The existing ROW varies between 15-45m. For widening of the existing road additional land needs to be acquired beyond the existing ROW depending upon the proposals and for improvement of geometrics such as curve improvement, additional land at high banks, land for bus bays/ toll plaza's etc.

#### 6. Proposed ROW

In general, proposed improvement is accommodated in the existing ROW. Additional land acquisition is proposed only at required stretches such as curve improvements, re-alignments, high bank locations, vehicular underpass locations, bus bays, toll plaza locations etc. Right of Way (ROW) of 45 m maximum is proposed in above mentioned stretches.

#### 7. Salient Features of Proposed Corridor

Salient Features of Proposed Corridor such as Total length, 2 lane road, 4 lane road, bridges, road side amenities etc. are presented in the table given below;

SI. NO.	COMPONENTS	TOTAL
1.	Length of two lane highway with paved shoulder	210.147 km
2.	Length of four lane highway	1.960 km
3.	No. of ROB	0
4.	No. of minor bridges	6
5.	No. of box culverts	107
6.	No. of pipe culverts	78
7.	No. of LVUP	0
8.	No. of VUP	3
9..	No. of major junctions	13
10.	No. of minor junctions	81
11.	No. of villages/towns	7
12.	No. of bus bays	30X2 = 60

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13.	No. of passenger shelter	36X2 = 72
14.	No. of toll plazas	3

**8. Curve Improvements/ Realignment involved in the proposal :-**

Stretch wise details of curve improvements, re-alignments, toll plaza's, VUP, bus bays etc. are presented in the table given below;

Existing Ch.		Design Ch.		Length 'Km'	Prop. ROW 'm'	Description	Remark
From	To	From	To				
<b>Khajuwala to Pugal</b>							
15935	16450	15935	16450	515	45	Realignment	at Canal
18450	19820	18450	19820	1370	45	Realignment	at Canal
25600	25900	25600	25900	300	45	Curve Improvement	
27200	27400	27200	27400	200	45	Curve Improvement	
		28600	30812	2212	45	Realignment	At Pugal
<b>Pugal to Bap</b>							
19220	19875	19220	19875	655	150	Toll Plaza	
25500	25900	25500	25900	400	45	Curve Improvement	
31615	35085	31600	35050	3450	45	Realignment	Dantour
45490	45590	45450	45550	100	45	Bus Bay	
81440	82085	81395	82040	645	150	Toll Plaza	
82445	83265	82400	83200	800	45	Realignment	at Canal
90665	93590	90600	92930	2330	45	Realignment	At Godu
105660	107130	105000	106400	1400	45	Realignment	At Ranjitpura
108125	108385	107400	107650	250	45	Curve Improvement	
110430	110635	109700	109900	200	45	Curve Improvement	
113550	114140	112820	113400	580	45	Curve Improvement	
116490	117420	115750	116675	925	45	Curve Improvement	
117940	118040	117190	117290	100	45	Bus Bay	

  
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Existing Ch.		Design Ch.		Length 'Km'	Prop. ROW 'm'	Description	Remark
From	To	From	To				
118250	119080	117500	118330	830	45	VUP at Charanwala	VUP + slip road
119780	120205	119000	119450	450	30	Curve Improvement	
120205	122410	119450	121640	2190	45	Curve Improvement	at Canal
126405	126505	125630	125730	100	45	Bus Bay	
127250	128250	126465	127450	985	45	Curve Improvement	at Canal
138250	138560	137450	137750	300	45	Curve Improvement	
139800	140810	139000	140000	1000	45	Curve Improvement	at Canal
141210	141615	140400	140800	400	45	Curve Improvement	
143815	145140	143000	144200	1200	45	Curve Improvement	S
168300	168950	167350	168000	650	150	Toll Plaza	

9. **COST ESTIMATE:**

The cost of the project is worked out to Rs. 857.29 Cr.

  
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